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State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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TO: Internal File

THRU: Susan M. White, Sr. Reclamation Specialist/Team Lead *SMW*

FROM: Wayne H. Western, Sr. Reclamation Specialist/III *WHW*

RE: Phase I Bond Release, Mountain coal Company, Gordon Creek 2/7/8 Mine, C/007/016-BR01B

**SUMMARY:**

On October 25, 2001, the Division received a bond release package for Phase I bond release for the Gordon Creek 2/7/8 mine. The permit area for the mine has been reduced as leases have been terminated. The Permittee want Phase I bond release for 32.52 acres, excluded from the bond release are the sediment ponds (1.63 acres) and Sweet's Pond (0.73 acres.)

**TECHNICAL ANALYSIS:**

**RECLAMATION PLAN**

**APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

**Analysis:**

The requirements for achieving the approximate original contour requirements are coached in the backfilling and grading requirements of the R645 rules. Technical Directive 002 clarifies those requirements that are as follows:

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### **Final Surface Configuration**

The main question that needs to be answered when evaluating the final surface configuration is, does the postmining topography, excluding elevation, closely resemble its premining configuration? The approved backfilling and grading plan called for restoring the area to AOC. When the Division compares the design plans (Plate 3-7 received May 19, 1998) with the as-built drawings (BR-1 received October 25, 2001) the Permittee appears to have backfilled and graded the area according to the approved plan.

The Division will verify that the reclaimed area blends into the undisturbed area during the bond release inspection. During the inspection, the Division will field check the as-built maps, look at how the disturbed area was transitioned into the undisturbed area and verify that the topography within the disturbed area is similar to the surrounding area.

Cut-slopes will remain after backfilling and grading. Cut-slopes may be left if the permittee does not have enough fill material or if safety factors cannot be achieved. The Division does not have any regulations or guidelines for cut-slope retention. During the bond release inspection, the Division will evaluate the cut-slopes.

### **Spoil Pile Elimination**

Neither the designs nor the as-builts show the location of the reclaimed spoil piles. This issue is addressed in the map section. During the bond release inspection, the Division will field check the site to determine if the spoil piles have been reclaimed.

### **Highwall Elimination**

The surface area at the No. 2 Mine was originally disturbed in 1969 so the site is a pre-SMCRA site. The No. 7 Mine was developed in 1983 and 1984 (post-SMCRA) and the No. 8 Mine was disturbed in 1989. The Permittee committed in the MRP to completely eliminate the highwalls at the No. 7 and No. 8 Mines. The Division will verify the highwall elimination during the bond release inspection.

The highwall at the No. 2 Mine may not be eliminated completely due to stability concerns. The main stability concern is a seep that is located at the Right Fork drainage. Because the site is pre-SMCRA, the Division can allow highwall remnants if fill material were not reasonably available, safety factor concerns, or elimination would disrupt drainage patterns. The as-built drawing shows that the Permittee followed the approved plan. The Division will verify the as-builts during the bond release inspection.

### **Drainages**

The restored drainages are shown in the as-built drawing and cross-sections. During the bond release inspection, the Division will verify that the drainages were properly installed.

### **Postmining Land Use**

During the bond release inspection, the Division will verify that the site is adequate for the postmining land use.

#### **Findings:**

The Permittee appears to have met the minimum requirements for reclaiming the site to AOC standards. The Division will verify that AOC has been achieved during the bond release inspection.

### **BACKFILLING AND GRADING**

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

#### **Analysis:**

The backfilling and grading requirements are as follows:

- The site will achieve AOC
- Elimination of highwalls, spoil piles and depression
- Achieve a postmining slope that does not exceed either the angle-of-repose or a lesser slope to achieve a static safety factor of 1.3 and prevent slides
- Minimize erosion and water pollution both on and off the site.
- Support the approved postmining land use.

Some of those requirements were address in the AOC section. In the AOC section the Division evaluated AOC and elimination of highwalls and spoil piles.

The slopes were designed to have a minimum safety factor of 1.3 and prevent slides. The designs were evaluated for slope stability and found to have a safety factor of 1.3. During the bond release inspection the Division will evaluate if the slope as stable or if slides have occurred.

The erosion and water pollution issue will be examined in detail in the hydrology, soils and biology sections of this TA. The postmining land use requirements will be discussed in that section of the TA.

#### **Findings:**

The Permittee appears to have met the minimum backfilling and grading requirements for the site. The Division will verify that the backfilling and grading requirements have been achieved during the bond release inspection.

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## **MINE OPENINGS**

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

### **Analysis:**

The Permittee sealed and backfilled the portals. The portals structures have been removed and the exposed coal seam has been covered. The mines are considered dry; no water discharge from the portals is expected. Gordon Creek Mine No. 2 was sealed in 1985 and the No. 7 and No. 8 mines were sealed in 1990.

The maps in the bond release package BR-1 show that the area has been backfill according to the reclamation plan. That plan called for the sealing and backfilling of all portals and exposed coal seam. The Division will verify that the portals and coal seams have been backfilled during the bond release inspection.

### **Findings:**

The Permittee appears to have met the minimum requirements for sealing mine opens. The Division will verify that the portals and coal seams have been backfilled during Phase I bond release inspection.

## **MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

### **Analysis:**

#### **Affected area boundary maps**

The affected area is assumed by the Division to be the same as the permit area for this mine. The permit boundary for the Gordon Creek No. 2/7/8 Mines is shown on Plate BR-2. Plate BR-1 show the permit area with the exception of the Sweet's Pond area at a scale of approximately 1 inch equals 150 feet. Note: Sweet's Pond will not be part of this bond release. This information was submitted in the September 2001 submittal.

Additional information is also given in the MRP. Plate 3-7 in the MRP shows the permit boundaries.

#### **Bonded area map**

Because of lease relinquishments, the bond area for the Gordon Creek No. 2/7/8 Mines is the same as the permit area. See Plates BR-1 and Br-1 for permit boundaries.

Additional information is also given in the MRP. Plate 3-7 in the MRP shows the permit boundaries.

### **Reclamation backfilling and grading maps**

Because part of the site was disturbed pre-SMCRA and part was disturbed post-SMCRA, the permittee must include backfilling and grading maps that show the location of the pre-SMCRA and post-SMCRA boundaries. This information is needed to determine what standards should apply.

The Division's technical directive Tech 006 outlines the information that should be shown on maps submitted for bond release. The general information that must be included for all bond phases is as follows:

- Delineated all disturbed areas.
- Show the reclamation dates and acreages of each reclaimed area.
- Show the operation or reclamation status of each area, such as active; temporary cessation; or phase bond release.
- Show areas proposed for bond release.

The specific information needed for Phase I bond release is as follows:

- Map must have a scale of no smaller than 1 inch equals 500 feet.
- Postmining features including restoration of natural drainages, ponds, diversions, wells and monitoring sites.
- Cross sections showing important topographic features, including to but not limited to, how the approximate original contour requirements were addressed and the roads.
- Dates of backfilling and grading activities
- Dates of topsoil replacement
- Topsoil replacement depths.

The maps in the MRP and bond release package address the general requirements as follows:

- The disturbed area boundaries are shown on several maps including Plate 3-7 in the MRP and Map BR-1 in the bond release package.
- The Permittee shows the number of acres in the bond release areas and the acreage excluded from Phase I bond release on Plate BR-2. However, the Permittee does not list the dates when reclamation work was completed.
- The Permittee does not label the operational status of each area in the disturbed area boundaries. The Permittee must state what areas are active; in temporary cessation; or in phase bond release
- Plate BR-2 in the bond release package shows the areas for which bond release is sought and the number of acres requested for bond release. However, the plate has a scale of 1 inch equals 2000 ft, at that scale the Division is unable to determine the exact area being

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sought for bond release.

The maps in the MRP and bond release package address the specific Phase I requirements as follows:

- Plate 3-7 and Plate BR-1 have scales of approximately 1 inch equals 125 feet.
- The Plate 3-7 and Plate Br-1 show the following features: (1) the restored channel including sections that have riprap, (2) French drains from the mine and (3) sediment ponds.
- The Permittee include cross section on 100 foot centers for bond release site. The Permittee also includes detailed cross section for side channel reclamation.
- The plates do not show the dates of backfilling and grading activities
- The plates do not show the dates of topsoil replacement.
- The plates do not show the topsoil replacement depths.

In the MRP, there are two copies of Plate 3-7. One copy is date received May 19, 1998 and the other is dated received Nov. 4, 1999. The Division assumes that the May 19, 1998 copy is the design plan and the Nov. 4, 1999 copy is the as-builts. In order to avoid confusion the Permittee needs to label each copy of Plate 3-7 as design or as-built.

The Division has incorporated the as-built maps and cross-sections into the MRP. Before just maps and cross-sections can be incorporated, the first must first verify that the information is correct.

#### **Reclamation facilities maps**

The Permittee shows the location of the sediment ponds that will be retained until vegetation has been established on Plate BR-1. In the MRP, there are two copies of Plate 3-7. One copy is date received May 19, 1998 and the other is dated received Nov. 4, 1999. The Division assumes that the May 19, 1998 copy is the design plan and the Nov. 4, 1999 copy is the as-builts. In order to avoid confusion the Permittee needs to label each copy of Plate 3-7 as design or as-built.

#### **Final surface configuration maps**

Plate 3-7 and the associated cross-sections show the surface configuration after backfilling and grading. There is enough information on the maps for the Division to check the designs against the as-builts and do a field check.

#### **Findings:**

**R645-301-542.300 and R645-301-121.200,** The Permittee must clarify which maps in the MRP and bond release package are design maps and cross sections and which ones are as-builts. In the MRP, there are two copies of Plate 3-7. One copy is date received May 19, 1998 and the other is dated received Nov. 4, 1999. The

Division assumes that the May 19, 1998 copy is the design plan and the Nov. 4, 1999 copy is the as-builts. In order to avoid confusion the Permittee needs to label each copy of Plate 3-7 as design or as-built.

## **BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

### **Analysis:**

#### **Determination of bond amount**

The permittee needs to include a detailed reclamation cost estimate for all activities that will occur after Phase I bond release has been granted.

### **Findings:**

**R645-301-830.140**, The Permittee must give the Division detailed reclamation cost estimate for reclaiming the sediment ponds, Sweets pond and the vegetation costs for the entire site.

### **RECCOMENDATIONS:**

Before the bond release inspection, the Permittee must correct the technical deficiencies that are described in this TA. After the deficiencies are corrected, the Division should conduct a bond release inspection to verify that all the requirements for Phase I bond release have been met.